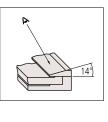
# **Calipers**

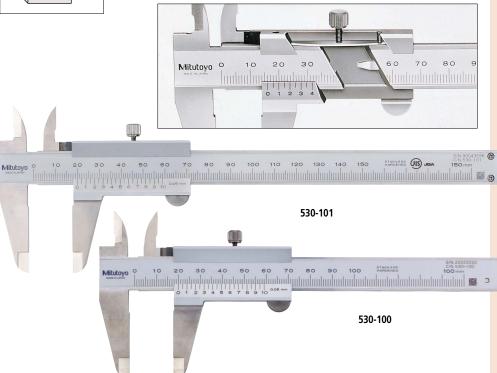
An industry standard measuring tool

## Vernier Caliper SERIES 530 — Standard model

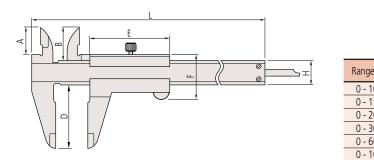
- Plain and basic design.
- Stepped graduation face prevents dust ingress between the main scale and slider.
- The small vernier face angle (14°) provides easy reading.



- Can measure steps, since the end faces of the beam and slider are the zero reference point (measuring face). Standard calipers allow four types of measurement, i.e. outside, inside, depth, and step.
- Carbide-tipped jaw calipers are optimal for rough finished parts, castings, grinding stones, etc.
- Decimal and fractional graduated scales (metric/inch and inch models only).



## **DIMENSIONS**

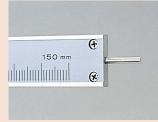


| Range (mm) | Outside jaw<br>thickness |
|------------|--------------------------|
| 0 - 100    |                          |
| 0 - 150    | 3                        |
| 0 - 200    |                          |
| 0 - 300    | 3.8                      |
| 0 - 600    | 6                        |
| 0 - 1000   | 8                        |

Unit: mm

| Range (mm) | А    | В    | D   | E    | F  | Н  | L    |
|------------|------|------|-----|------|----|----|------|
| 0 - 100    | 17   | 21.5 | 40  | 53.5 | 30 | 16 | 182  |
| 0 - 150    | 17   | 21.5 | 40  | 53.5 | 30 | 16 | 229  |
| 0 - 200    | 20.5 | 25   | 50  | 53.5 | 30 | 16 | 288  |
| 0 - 300    | 22   | 27.5 | 64  | 66.5 | 36 | 20 | 404  |
| 0 - 600    | 38   | 47   | 90  | 89   | 50 | 25 | 780  |
| 0 - 1000   | 50   | 60   | 130 | 111  | 61 | 32 | 1240 |

Note: **530-100** and **530-102** incorporate a round depth bar (ø1.9 mm). The depth bar shown in the illustration above is a different type.



530-102 (Round depth bar type)



**530-320** (Carbide-tipped jaws for outside measurement)



#### **SPECIFICATIONS**

| Metric               | ı       |  |           |                 |                     |
|----------------------|---------|--|-----------|-----------------|---------------------|
| Order No. Range (mm) |         | Maximum Permissible Error* (mm) • EMPE (outside measurement) • SMPE (inside measurement) | Depth bar | Graduation (mm) | Remarks             |
| 530-101              | 0 - 150 | ±0.05  |           | 0.05            | _                   |
| 530-122              | 0 - 150 | ±0.03  |           | 0.02            | High accuracy model |
| 530-108              | 0 - 200 | ±0.05  | Blade     | 0.05            | _                   |
| 530-123              | 0 - 200 | ±0.03  | Diaue     | 0.02            | High accuracy model |
| 530-109              | 0 - 300 | ±0.08  |           | 0.05            | _                   |
| 530-124              | 0 - 300 | ±0.04  |           | 0.02            | High accuracy model |

| Order No. | Range (mm)                    | Accuracy (mm) | Depth bar   | Graduation (mm) | Remarks  |
|-----------|-------------------------------|---------------|-------------|-----------------|--|
| 530-100   | 0 - 100                       | ±0.05         | ø1.9 mm rod | 0.05            | _  |
| 530-102   | 0 - 150<br>0 - 200<br>0 - 300 | ±0.05         | Blade       |                 | _  |
| 530-320   |                               | ±0.05         |             |                 | Carbide-tipped jaws for outside measurement            |
| 530-335   |                               | ±0.05         |             |                 | Carbide-tipped jaws for outside and inside measurement |
| 530-321   |                               | ±0.05         |             |                 | Carbide-tipped jaws for outside measurement            |
| 530-322   |                               | ±0.08         |             |                 | Carbide-tipped jaws for outside measurement            |
| 530-501   | 0 - 600                       | ±0.10         |             |                 |  |
| 530-502   | 0 - 1000                      | ±0.15         | _           |                 | _  |

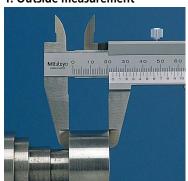
<sup>\*</sup> Partial Measuring Face Contact Error EMPE/Scale Shift Error SMPE are terms (notations) used in JIS B 7507: 2016, revised based on ISO 13385-1: 2011. The measurement method is the same as before. Refer to page D-40 for details.

| Metric/Inch with metric/inch double scale |                                   |       |           |                    |                                 |  |  |  |
|---|-----------------------------------|-------|-----------|--------------------|---------------------------------|--|--|--|
| Order No.                                 | Order No. Range (mm) Accuracy (mn |       | Depth bar | Graduation         | Remarks                         |  |  |  |
| 530-104                                   |                                   | ±0.05 |           | 0.05 mm (1/128 in) | _                               |  |  |  |
| 530-316                                   | 0 - 150                           |       |           |                    | Clamping screw below the slider |  |  |  |
| 530-312                                   |                                   | ±0.03 |           | 0.02 mm (0.001 in) | High accuracy model: ±0.03 mm   |  |  |  |
| 530-114                                   | 0 - 200                           | ±0.05 | Blade     | 0.05 mm (1/128 in) | _                               |  |  |  |
| 530-118                                   | 0 - 200                           | ±0.03 |           | 0.02 mm (0.001 in) | High accuracy model: ±0.03 mm   |  |  |  |
| 530-115                                   | 0 - 300                           | ±0.08 |           | 0.05 mm (1/128 in) | _                               |  |  |  |
| 530-119                                   | 0 - 300                           | ±0.04 |           | 0.02 mm (0.001 in) | High accuracy model: ±0.04 mm   |  |  |  |

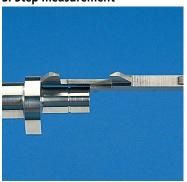
|   | Inch with inch/inch double scale |            |               |                                   |       |         |  |  |  |  |
|---|----------------------------------|------------|---------------|-----------------------------------|-------|---------|--|--|--|--|
|   | Order No.                        | Range (in) | Accuracy (in) | (in) Depth bar Graduation (in) Re |       | Remarks |  |  |  |  |
| Ī | 530-105                          | 0 - 6      | ±0.5/128      | Blade                             | 0.001 |         |  |  |  |  |
|   | 530-116                          | 0 - 8      | ±0.5/128      | Diaue                             |       | _       |  |  |  |  |

## **Measurement Applications**

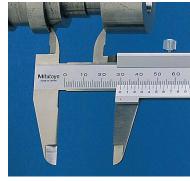
## 1. Outside measurement



## 3. Step measurement



#### 2. Inside measurement



## 4. Depth measurement

